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Calculating the carbon footprint: Implications for governing emissions and gender relations



Thereza R.S. de Aguiar^{a,*}, Anne Fearfull^b, María V. Sanagustín Fons^c

^a University of Glasgow, Adam Smith Business School (South), Room 682, University Avenue, Glasgow G12 8QQ, UK

^b School of Social Sciences, University of Dundee, Dundee DD1 4HN, UK

^c Faculty of Business and Public Management, University of Zaragoza, Plaza de la Constitución s/n, 22071 Huesca, Spain

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ABSTRACT

In this article, we use fresh empirical evidence, and draw on feminist and critical accounting and organizational theories to contend that carbon calculators can be interpreted as discriminatory control technologies. They do this by providing a new and flexible vocabulary for governing expenses, costs and investments at a distance, avoiding a sense of direct intervention by the government. Thus, given our stance that the carbon calculator cannot be considered a neutral tool, we argue that it has the potential to control personal responsibilities regarding both environmental and family-based issues.

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1. Introduction

This article focuses on a personal carbon calculator, a tool that allow individuals and householders to understand, monitor and receive feedback on their personal emissions/carbon footprint (Bottrill, 2007). Carbon mensuration was also identified as a means of motivating environmental efficiency and cost reductions at the household level (Pandey, Agrawal, & Pandey, 2011). There are a variety of calculators available at national and international levels (Bottrill, 2007), these having been developed by different organizations including governments, commercial companies and media groups (Paterson & Stripple, 2010).

However, there are important considerations to be made while studying the personal carbon footprint in the household context. According to Nye, Whitmarsh, and Foxon (2010), technologies used to make visible householders' impacts on the environment may affect consumers' routines and lifestyles. These techniques not only inform on the amount of emissions but also provide data on costs related to emissions' consumption (Nye et al., 2010). However, there is only limited data on how domestic actors experience the agenda of behavior change geared toward emissions reductions (Nye et al., 2010), and their impact on rules and behaviors inherent to daily life (Nye et al., 2010). Moreover, while carbon footprint measurement facilitates calculative estimations, it fails to offer a complete and accurate amount of the actual emissions incurred.

Carbon footprint technology is still evolving, especially with regard to the accuracy of estimations and transparency of calculations methods, as a means of benchmarking and comparison (Padgett, Steinemann, Clarke, & Vandenberg, 2008). Hence, there is a need to explore, in more detail, the consequences of personal choices before setting a normative concept of responsible behavior toward emissions reductions (Whitmarsh & O'Neill, 2010).

* Corresponding author. Tel.: +44 (0) 141 3307687.

E-mail addresses: Thereza.SalesDeAguiar@glasgow.ac.uk (T.R.S. de Aguiar), a.fearfull@dundee.ac.uk (A. Fearfull), vitico@unizar.es (M.V. Sanagustín Fons).

Our study explores the application of a particular carbon calculator: the Act on CO₂ calculator¹ through the lenses of 'governmentality' and the 'governable person', as an accounting technology that influences householders' lifestyles. In summary, we found that the use of this specific calculator suggests its capacity for the control of householders' emissions at distance. Our study also illustrates how calculative tools, such as Act on CO₂, when used in a household context, may impact on our understanding of gender relations.

The article is structured as follows. Section 2 examines the relevant literature as a means of exploring the use of the calculator through the lenses of governmentality and the governable person and with attention to the gendered nature of technologies. Section 3 presents detail on the UK's Act on CO₂ initiative within its political social and economic context. Sections 4 and 5 will present the methods used in our study and our findings respectively. More specifically, in those two sections, we examine both primary and secondary data analyzing people's carbon related behaviors and time use, and specifically people's use of the Act on CO₂ calculator.

We address the secondary data first as a means of providing a context for the analysis of our own empirical work. Our examination of secondary data is two-stranded, first drawing on Lader, Shor, and Gershuny's (2006) Time Use Survey; and secondly by looking at extracts from diaries compiled by 29 participants in a 15 weeks emissions trial, the People Power Challenge, promoted by the Government following the launch of the Act on CO₂ Campaign in three different UK cities: Newcastle, Birmingham and Portsmouth.² Our primary data, gathered via semi-structured interviews with a sample of Scottish families involving 13 participants in total, explores their views on using the calculator. Finally, in Section 6, we present our concluding remarks.

2. The literature: visibility, calculation and control

Miller and Rose (1990) built on the concept of governmentality proposed by Foucault (1979), as a means of analyzing techniques that were used by Governments to control individuals' conduct in order to achieve a political objective. As Taylor (1996, p. 162) has pointed out, such techniques:

'[are] part of technologies of control. It is at the hinge where two axes of such development join. On one hand, it is related to the disciplines of the body; on the other, to the regulation of populations. It serves the preservation and extension of life as the 'bio-mass', which is the over-riding direction of much modern policy.'

Thus, measures of identifying personal failure are essential. In this scenario, the development of a discourse to represent Government objectives, as well as providing a mechanism for rendering visible the activities and behaviors of individuals (or groups) as a means of better identifying shortcomings regarding behaviors or outputs, is vital.

Several studies have used the notion of governmentality to analyze policies and practices to tackle climate change (Löwbrand & Strippel, 2011; Lovell & MacKenzie, 2011; Methmann, 2011; Oels, 2005; Paterson & Strippel, 2010). Paterson and Strippel (2010) analyzed five practices to tackle climate change: Carbon Footprint, Carbon Dieting, Carbon Reduction Action Groups and Personal Carbon Allowances. They concluded that these practices governed individuals at a distance and 'shaped individual subjects' by making them manage their own emissions and 'modeling' practices, behaviors and identities (p. 359); in other words, those people became socialized/indoctrinated by the techniques, or technologies, to which they were exposed.

The notion of the governable person suggested by Miller and O'Leary (1987), drawing on the principles of power and knowledge suggested by Foucault (1970), is another important concept for application in our argument. Miller and O'Leary (1987) locate accounting, particularly standard costing and budgeting (SC&B), among a set of calculative techniques that can be used at the level of society. More specifically, they described accounting as providing a set of norms and standards, necessary to adhere to, for successful use of resources. Furthermore, they argued that because of its ability in the wider social context to render visible individuals' inefficiencies, accounting is not a 'neutral process' (Miller & O'Leary, 1987).

Forms of accounting control have evolved over time. The literature explains these changes by illustrating, for example, the fact that the workplace is a space for shaping human relations (Miller & Rose, 1995), and also because workers' identities have been influenced by social, political and historical contexts (Bhimani, 1994). Thus, the language, vocabulary and techniques of SC&B form means of control over personal responsibilities without the need for direct intervention (Miller & O'Leary, 1994a).

The work of Miller and O'Leary (1994a) was criticized for its focus on the analysis of production and the diffusion of accounting technologies, leaving apart variables such as class, ideology and social structure within the organizational context (Arnold, 1998; Froud, Williams, Haslam, Johal, & Williams, 1998). Arnold (1998) argues that accounting technologies are social practices representing symbolic rationalizations, suggesting as relevant the use of Thompson's three-part methodology in order to understand these symbolic constructions. Certainly Thompson's three-part methodology involves a more holistic

¹ The Act on CO₂ campaign is no longer operating. However, detailed information on the Act on CO₂ calculator's data, methodology and assumptions can be found in DECC (2009). Additional information on the Act on CO₂ calculator (e.g. frequent answers and questions) can be also found at the National Archives on the following web-link (<http://webarchive.nationalarchives.gov.uk/20090318060730/actonco2.direct.gov.uk/index.html>).

² Data on this trial is available online via the UK National Archives webpage: (<http://webarchive.nationalarchives.gov.uk/20090507165358/http://campaigns.direct.gov.uk/actonco2/home/people-power/people-power.html>).

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